



Module specification

1. Factual information			
Module title	TM111: Introduction to Computing and Information Technology 1	Level	Undergraduate
Module tutor		Credit value	30
Module type	Taught	Notional learning hours	8

2. Rationale for the module and its links with other modules

This is an introductory level 1 module, which provides students with a broad introduction to Computing and Information Technology concepts, principles and theories.

3. Aims of the module

This module aims to:

- Help students to develop their understanding about the significant role of computers in our lives.
- Explore some processes by which sound and images in the real world are captured and stored and may be shared with peers and the wider world through social networking sites.
- Introduce students to algorithmic thinking and problem-solving skills using examples from everyday life.
- Enhance student's knowledge about implementing solutions to simple problems in a visual programming.
- Introduce students to the key concepts and technologies underpinning the communication networks.
- Prepare the student for further academic study by helping him develop his study skills.

4. Pre-requisite modules or specified entry requirements

EL111

5. Intended learning outcomes	
A. Knowledge and understanding	Learning and teaching strategy
<p>A1. Understand the fundamental principles, concepts and techniques underlying Computing and IT.</p> <p>A2. Explore various situations in which Computing and IT systems are used, the ways in which people interact with them, and the possibilities and limitations of such systems</p> <p>A3. Be aware of the ethical, social and legal issues that can be associated with the development and deployment of Computing & IT systems.</p> <p>A4. Demonstrate an understanding of algorithmic thinking and problem-solving skills using examples from everyday life.</p> <p>A5. Understand the general principles, roles of various components, and the challenges involved in sending data across communication networks.</p> <p>A6. Know how to find, rank and reference information; how to build your information literacy skills and how to interpret data in different forms.</p>	<p>The methods of instruction may include, but are not limited to :</p> <ul style="list-style-type: none"> • 25% face-to-face tutorial sessions • Class discussions • Topic-related activities • Independent study • Forums on the LMS • Office hour discussions • Feedback and guidance on TMA and MTA • Module textbook and support video material

B. Cognitive skills	Learning and teaching strategy
<p>B1. Evaluate key computing and IT concepts in a range of contexts.</p> <p>B2. Apply appropriate techniques and tools for abstracting, modelling, problem solving, designing and testing computing and IT systems.</p> <p>B3. Compare, contrast, critically analyze and refine specifications and implementations of software systems and/or simple hardware systems.</p> <p>B4. Identify situations in which different network technologies may be used.</p>	<ul style="list-style-type: none"> • 25% face-to-face tutorial sessions • Class discussions • Independent study • Forums on the LMS • Feedback and guidance on TMA and MTA • Module textbook and support video material

C. Practical and professional skills	Learning and teaching strategy
<p>C1. Communicate information, arguments, ideas and issues clearly and in appropriate ways, bearing in mind the audience for and the purpose of your communication.</p> <p>C2. Use appropriate numerical and mathematical skills to carry out calculations and analyze data.</p> <p>C3. Work independently, planning, monitoring, reflecting on and improving your own learning</p> <p>C4. Demonstrate study skills at a level appropriate to higher education, such as study planning, learning from feedback and reading actively</p>	<p>The methods of instruction may include, but are not limited to :</p> <ul style="list-style-type: none"> • 25% face-to-face tutorial sessions • Class discussions • Independent study • Forums on the LMS • Feedback and guidance on TMA and MTA • Module textbook and support video material

D Key transferable skills	Learning and teaching strategy
<p>D1. Evaluate computing and IT systems, using appropriate simulation and modelling tools where appropriate</p> <p>D2. Use a range of resources to help you develop as an independent learner.</p> <p>D3. Use information literacy skills, computers and software packages appropriate to the workplace.</p> <p>D4. Communicate appropriately with your tutor and other students using email, online conferences and forums.</p>	<p>The methods of instruction may include, but are not limited to :</p> <ul style="list-style-type: none"> • 25% face-to-face tutorial sessions • Class discussions • Independent study • Forums on the LMS • Feedback and guidance on TMA and MTA • Module textbook and support video material

6. Indicative content.

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Block 1

Part 1: Introduction to Computing and IT

Part 2: Key milestones in the development of computer and the internet; Binary logic; Bits and bytes

Part 3: Capturing sound and vision; Analogue to digital conversion

Part 5: Human Computer Interaction; HCI design; usability; accessibility/inclusivity issues

Part 6: Developing algorithmic thinking; problem-solving and other employability skills

Block 2

Part 1: Programming with sequencing, variables, expressions, strings & input/output.

Part 2-3: Programming with selection.

Part 4-5: Programming with repetition

Block 3

Part 1: Introduction to networks and how the internet works

Part 2: The internet: IP addresses; packets; routing; gateways. Internet protocols, layers and stacks

Part 3: Wireless communication: WiFi, BlueTooth, RFID, LANs, PANs.

Part 4: The Internet of Things - Smart cities, smart cars; 'smart' technologies

Part 6: The information society

7. Assessment strategy, assessment methods and their relative weightings

TMA Work: 20%
 MTA: 30%
 Final Exam: 50%

8. Mapping of assessment tasks to learning outcomes

Assessment tasks	Learning outcomes																	
	A1	A2	A3	A4	A5	A6	B1	B2	B3	B4	C1	C2	C3	C4	D1	D2	D3	D4
TMA'S	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
MTA	✓	✓	✓	✓			✓	✓	✓	✓		✓		✓	✓			
End of Semester Exam	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓		✓	✓			

9. Teaching staff associated with the module

Name and contact details
 Eng. Ahmad Mikati

10. Key reading list

Author	Year	Title	Publisher	Location
Module adopted from OU, UK. It will be finalised by OU, UK by October 2017. Suggested /Preferred books :		Using Information Technology	McGraw Hill	2015

11. Other indicative text (e.g. websites)

<https://lms.arabou.edu.kw>